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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

10/516812

Applicant's or agent's file reference A2422PC	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FI 03/00443	International filing date (day/month/year) 04.06.2003	Priority date (day/month/year) 04.06.2002
International Patent Classification (IPC) or both national classification and IPC H04L12/66		
Applicant TELEFONAKTIEBOLAGET L M ERICSSON (PUBL) et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 12 sheets.

3. This report contains indications relating to the following items:

- I Basis of the opinion
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 13.11.2003	Date of completion of this report 20.09.2004
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Forster, G Telephone No. +49 89 2399-8986



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/FI 03/00443

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-25 as originally filed

Claims, Numbers

1-44 received on 13.08.2004 with letter of 13.08.2004

Drawings, Sheets

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

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5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-44
	No: Claims	
Inventive step (IS)	Yes: Claims	1-44
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-44
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/FI 03/00443

to section V.

1. The present invention relates to a method for interworking between a number of different video communication terminals through a video interactive gateway in a video communication system, to said video communication system and to said video interactive gateway, according to the features of the amended independent claims 1, 23 and 34 respectively.
2. The cited documents in the international search report do not appear to get closer to the subject-matter of the independent claims than the documents already acknowledged by the applicant.
3. According to the features of the independent claims the inventive step consists in the special design of the video interactive gateway and video communication system and the particular sequence of the steps of the claimed method for interworking between a number of different video communication terminals through said video interactive gateway in the video communication system.

The underlying concept is not disclosed in or rendered obvious by the cited prior art documents. The subject-matter of the independent claims thus fulfils the requirements of Article 33 PCT.

4. The dependent claims contain further details on the subject-matter of the respective independent claims. These dependent claims merely limit the scope of protection sought by the independent claims and are therefore also considered to fulfil the requirements of Article 33 PCT.

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Claims

1. A method for interworking between a number of different video communication terminals through a Video Interactive Gateway (VIG) in a video communication system, the video communication system comprising at least one Video Interactive Gateway unit, at least one low bit-rate multimedia terminal, and at least one packet based multimedia terminal, characterized in that the method comprises the steps of
 - the low bit-rate multimedia terminal sending an Open Logical Channel (OLC) message to the Video Interactive Gateway unit, the Open Logical Channel (OLC) message including a forward channel description and a Reverse channel description, and
 - the Video Interactive Gateway unit further sending and/or receiving messages in order to set up video communication between the terminals, and that in setting up video communication between the terminals,
 - the Video Interactive Gateway receives OLC from the packet based multimedia terminal, and
 - the Video Interactive Gateway initiates OLC by using the forward channel description received from the packet based multimedia terminal as forward channel description towards the low bit-rate multimedia terminal, and by using the forward channel description received from the low bit-rate multimedia terminal as the reverse channel description towards the low bit-rate multimedia terminal.
2. An interworking method according to claim 1, characterized in that the method further comprises the step of
 - the Video Interactive Gateway unit sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

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3. An interworking method according to claim 1 or to
claim 2, characterized in that in setting up video commu-
nication between the terminals,

5 - the Video Interactive Gateway initiates OLC towards the
packet based multimedia terminal by using the forward
channel description received from the low bit-rate multi-
media terminal, and
- the Video Interactive Gateway receives OLC ack from the
low bit-rate multimedia terminal and initiates OLC ack to-
10 wards the packet based multimedia terminal.

4. An interworking method according to any of the claims
1-3, characterized in that the Video Interactive Gateway
receives OLC ack from the packet based multimedia terminal
15 and sends OLC conf to the low bit-rate multimedia terminal
when both OLC ack from the low bit-rate multimedia termi-
nal and OLC ack from the packet based multimedia terminal
has been received.

20 5. An interworking method according to any of the claims
1-4, characterized in that in case OLC has not been re-
ceived from the packet based multimedia terminal, when OLC
ack is received from the packet based multimedia terminal,
the Video Interactive Gateway initiates OLC to the low
25 bit-rate multimedia terminal by leaving forward channel
description empty.

6. An interworking method according to claim 5, charac-
terized in that in case OLC is received from the packet
30 based multimedia terminal later, VIG closes the already
opened channel to the low bit-rate multimedia terminal and
opens a new one by using the proper forward channel de-
scription.

35 7. An interworking method according to claim 1, charac-
terized in that

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- before receiving OLC from the packet based multimedia terminal, as the Video Interactive Gateway receives OLC first from the low bit-rate multimedia terminal, it starts a timer, and that

5 - after initiating OLC, the Video Interactive Gateway receives OLC ack from the low bit-rate multimedia terminal, initiates OLC ack towards the packet based multimedia terminal, and further initiates OLC towards the packet based multimedia terminal by using the forward channel description received from the low bit-rate multimedia terminal.

8. An interworking method according to claim 7, characterized in that the method further comprises the step of
- the Video Interactive Gateway unit sending an Open Logical Channel (OLC) rejection message to the low bit-rate
15 multimedia terminal.

9. An interworking method according to claim 7 or to
claim 8, characterized in that the Video Interactive Gate-
20 way sends OLC conf to H.324 when OLC ack from the packet
based multimedia terminal is received.

10. An interworking method according to claim 7 or to
claim 8, characterized in that in case OLC has not been
25 received from the packet based multimedia terminal, when
the timer expires, VIG initiates OLC to the low bit-rate
multimedia terminal by leaving forward channel description
empty.

30 11. An interworking method according to claim 10, char-
acterized in that in case OLC is received from the packet
based multimedia terminal later, VIG closes the already
opened channel to the low bit-rate multimedia terminal and
opens a new one by using the proper forward channel de-
35 scription.

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12. An interworking method according to claim 1, characterized in that the Video Interactive Gateway initiates OLC by using the forward channel description received from the packet based multimedia terminal as forward and reverse channel description towards the low bit-rate multimedia terminal.

13. An interworking method according to claim 12, characterized in that the method further comprises the step of - the Video Interactive Gateway unit sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

14. An interworking method according to claim 12 or to claim 13, characterized in that in setting up video communication between the terminals, as the Video Interactive Gateway receives OLC first from the low bit-rate multimedia terminal, it starts a timer.

15. An interworking method according to any of the claims 12-14, characterized in that in setting up video communication between the terminals, the Video Interactive Gateway receives OLC ack from the low bit-rate multimedia terminal and initiates OLC ack towards the packet based multimedia terminal, and further initiates OLC towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal.

16. An interworking method according to any of the claims 12-15, characterized in that - when initiating OLC by using the forward channel description received from the packet based multimedia terminal as reverse channel description towards the low bit-rate multimedia terminal, the Video Interactive Gateway

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5 takes into account the request received from the low bit-rate multimedia terminal, and that
- when initiating OLC ack towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal, the Video Interactive Gateway takes into account the request received from the low bit-rate multimedia terminal.

10 17. An interworking method according to any of the claims 12-16, characterized in that
- when initiating OLC by using the forward channel description received from the packet based multimedia terminal as reverse channel description towards the low bit-rate multimedia terminal, the Video Interactive Gateway
15 takes into account the capability description received from the low bit-rate multimedia terminal, and that
- when initiating OLC ack towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal, the Video Interactive Gateway takes into account the capability description received from the low bit-rate multimedia terminal.

20 18. An interworking method according to any of the claims 12-17, characterized in that the Video Interactive Gateway receives OLC ack from the packet based multimedia terminal and sends OLC conf to the low bit-rate multimedia terminal when both OLC ack from the low bit-rate multimedia terminal and OLC ack from the packet based multimedia terminal has been received.

30 19. An interworking method according to any of the claims 12-17, characterized in that in case OLC has not been received from the packet based multimedia terminal, when the timer expires, the Video Interactive Gateway initiates OLC to the packet based multimedia terminal, and as

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the packet based multimedia terminal acknowledges this, the Video Interactive Gateway initiates OLC to the low bit-rate multimedia terminal by leaving forward channel description empty.

5

20. An interworking method according to claim 19, characterized in that in case OLC is received from the packet based multimedia terminal later, the Video Interactive Gateway closes the already opened channel to the low bit-10 rate multimedia terminal and opens a new one by using the proper forward channel description.

21. An interworking method according to any of the claims 1-20, characterized in that the low bit-rate multi-15 media terminal is a H.324 terminal and that the packet based multimedia terminal is a H.323 terminal.

22. An interworking method according to any of the claims 1-20, characterized in that the low bit-rate multi-20 media terminal is a H.324 terminal and that the packet based multimedia terminal is a SIP terminal.

23. A video communication system, the video communication system comprising at least one Video Interactive 25 Gateway unit, at least one low bit-rate multimedia terminal, and at least one packet based multimedia terminal, characterized in that

- the low bit-rate multimedia terminal is arranged for sending an Open Logical Channel (OLC) message to the Video 30 Interactive Gateway unit, the Open Logical Channel (OLC) message including a forward channel description and a Reverse channel description,
- the Video Interactive Gateway unit is arranged for sending and/or receiving messages in order to set up video 35 communication between the terminals,

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and that in setting up video communication between the terminals,

- the Video Interactive Gateway is arranged for receiving OLC from the packet based multimedia terminal, and

5 - the Video Interactive Gateway is arranged for initiating OLC by using the forward channel description received from the packet based multimedia terminal as forward channel description towards the low bit-rate multimedia terminal, and by using the forward channel description received from 10 the low bit-rate multimedia terminal as the reverse channel description towards the low bit-rate multimedia terminal.

15 24. A video communication system according to claim 23, characterized in that the Video Interactive Gateway unit is arranged for sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

20 25. A video communication system according to claim 23 or to claim 24, characterized in that in setting up video communication between the terminals,

- the Video Interactive Gateway is arranged for initiating OLC towards the packet based multimedia terminal by using the forward channel description received from the low bit- 25 rate multimedia terminal, and

- the Video Interactive Gateway is arranged for receiving OLC ack from the low bit-rate multimedia terminal and initiating OLC ack towards the packet based multimedia terminal.

30

26. A video communication system according to claim 23, characterized in that

- the Video Interactive Gateway is arranged for starting a timer as it receives OLC first from the low bit-rate multimedia terminal before receiving OLC from the packet based multimedia terminal, and that

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- the Video Interactive Gateway is arranged for receiving OLC ack from the low bit-rate multimedia terminal after initiating OLC, initiating OLC ack towards the packet based multimedia terminal, and further initiating OLC towards the packet based multimedia terminal by using the forward channel description received from the low bit-rate multimedia terminal.

27. A video communication system according to claim 26,
10 characterized in that the Video Interactive Gateway unit is arranged for sending an Open Logical Channel (OLC) re-
jection message to the low bit-rate multimedia terminal.

28. A video communication system according to claim 23,
15 characterized in that the Video Interactive Gateway is ar-
ranged for initiating OLC by using the forward channel de-
scription received from the packet based multimedia termi-
nal as forward and reverse channel description towards the
low bit-rate multimedia terminal.

20 29. A video communication system according to claim 28,
characterized in that the Video Interactive Gateway unit is arranged for sending an Open Logical Channel (OLC) re-
jection message to the low bit-rate multimedia terminal.

25 30. A video communication system according to claim 28
or to claim 29, characterized in that in setting up video
communication between the terminals, the Video Interactive
Gateway is arranged for starting a timer as it receives
30 OLC first from the low bit-rate multimedia terminal.

31. A video communication system according to any of the
claims 28-30, characterized in that in setting up video
communication between the terminals, the Video Interactive
35 Gateway is arranged for receiving OLC ack from the low
bit-rate multimedia terminal and initiating OLC ack to-

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wards the packet based multimedia terminal, and further initiating OLC towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal.

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32. A video communication system according to any of the claims 23-31, characterized in that the low bit-rate multimedia terminal is a H.324 terminal and that the packet based multimedia terminal is a H.323 terminal.

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33. A video communication system according to any of the claims 23-31, characterized in that the low bit-rate multimedia terminal is a H.324 terminal and that the packet based multimedia terminal is a SIP terminal.

15

34. A Video Interactive Gateway unit for interworking between a number of different video communication terminals in a video communication system, the video communication system comprising at least one Video Interactive

20 Gateway unit, at least one low bit-rate multimedia terminal, and at least one packet based multimedia terminal, characterized in that

- the low bit-rate multimedia terminal is arranged for sending an Open Logical Channel (OLC) message to the Video
25 Interactive Gateway unit, the Open Logical Channel (OLC) message including a forward channel description and a Reverse channel description, and

- the Video Interactive Gateway unit is arranged for sending and/or receiving messages in order to set up video
30 communication between the terminals.

and that in setting up video communication between the terminals,

- the Video Interactive Gateway is arranged for receiving OLC from the packet based multimedia terminal, and

35 - the Video Interactive Gateway is arranged for initiating OLC by using the forward channel description received from

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the packet based multimedia terminal as forward channel description towards the low bit-rate multimedia terminal, and by using the forward channel description received from the low bit-rate multimedia terminal as the reverse channel description towards the low bit-rate multimedia terminal.

35. A Video Interactive Gateway unit according to claim 34, characterized in that the Video Interactive Gateway unit is arranged for sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

36. A Video Interactive Gateway unit according to claim 34 or to claim 35, characterized in that in setting up video communication between the terminals,

- the Video Interactive Gateway is arranged for initiating OLC towards the packet based multimedia terminal by using the forward channel description received from the low bit-rate multimedia terminal, and
- the Video Interactive Gateway is arranged for receiving OLC ack from the low bit-rate multimedia terminal and initiating OLC ack towards the packet based multimedia terminal.

37. A Video Interactive Gateway unit according to claim 34, characterized in that

- the Video Interactive Gateway is arranged for starting a timer as it receives OLC first from the low bit-rate multimedia terminal before receiving OLC from the packet based multimedia terminal, and that
- the Video Interactive Gateway is arranged for receiving OLC ack from the low bit-rate multimedia terminal after initiating OLC, initiating OLC ack towards the packet based multimedia terminal, and further initiating OLC towards the packet based multimedia terminal by using the

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forward channel description received from the low bit-rate multimedia terminal.

38. A Video Interactive Gateway unit according to claim
5 37, characterized in that the Video Interactive Gateway unit is arranged for sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

39. A Video Interactive Gateway unit according to claim
10 34, characterized in that the Video Interactive Gateway is arranged for initiating OLC by using the forward channel description received from the packet based multimedia terminal as forward and reverse channel description towards the low bit-rate multimedia terminal.

15 40. A Video Interactive Gateway unit according to claim 39, characterized in that the Video Interactive Gateway unit is arranged for sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

20 41. A Video Interactive Gateway unit according to claim 39 or to claim 40, characterized in that in setting up video communication between the terminals, the Video Interactive Gateway is arranged for starting a timer as it receives OLC first from the low bit-rate multimedia terminal.

42. A Video Interactive Gateway unit according to any of the claims 39-41, characterized in that in setting up video communication between the terminals, the Video Interactive Gateway is arranged for receiving OLC ack from the low bit-rate multimedia terminal and initiating OLC ack towards the packet based multimedia terminal, and further initiating OLC towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal.

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43. A Video Interactive Gateway unit according to any of the claims 34-42, characterized in that the low bit-rate multimedia terminal is a H.324 terminal and that the 5 packet based multimedia terminal is a H.323 terminal.

44. A Video Interactive Gateway unit according to any of the claims 34-42, characterized in that the low bit-rate multimedia terminal is a H.324 terminal and that the 10 packet based multimedia terminal is a SIP terminal.